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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,116	06/23/2006	Tomoharu Horio	10921.408USWO	9846
52835	7590	09/04/2008	EXAMINER	
HAMRE, SCHUMANN, MUELLER & LARSON, P.C.			LI, MEIYA	
P.O. BOX 2902			ART UNIT	PAPER NUMBER
MINNEAPOLIS, MN 55402-0902			2811	
MAIL DATE	DELIVERY MODE			
09/04/2008	PAPER			

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/584,116	HORIO, TOMOHARU	
	<b>Examiner</b>	<b>Art Unit</b>	
	MEIYA LI	2811	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 02 June 2008.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-7 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. (2003/0156842) in view of Bates et al. (5,049,978).

As for claim 1, Morimoto et al. shows in Fig. 1 and related text an optical data communication module 1 comprising:

a base board 8;

a light emitting element 7;

a light receiving element 1;

an IC chip 3; and

a sealing resin package 9 made of a first resin;

wherein the light emitting element, the light receiving element, and the IC chip are mounted on the base board, and are covered by the sealing resin package;

wherein the base board is formed with a recess including a bottom surface and a circumferential inner surface, the recess accommodating the light emitting element.

Morimoto et al. do not show the bottom surface and the circumferential inner surface of the recess being entirely covered by a grounded metal film.

Bate et al. teach in Fig. 1 and related text the bottom surface and the circumferential inner surface of the recess being entirely covered by a grounded metal film.

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to include a grounded metal film, as taught by Bate et al., in Morimoto et al.'s device, in order to provide a low impedance signal grounds under the signal paths to maintain transmission line efficiency.

As for claim 2, the prior art combined device shows the light emitting element is an infrared rays emitting element, while the light receiving element is an infrared rays receiving element (Morimoto: abstract; [0026]).

As for claim 3, the prior art combined device shows a top surface of the metal film is higher than a top of the light emitting element.

As for claim 5, the prior art combined device shows includes the recess is an inverted trapezoidal cone becoming diametrically smaller as proceeding toward the bottom surface (Morimoto: Fig. 1).

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. (2003/0156842) and Bates et al. (5,049,978), as applied to claim 1, in view of Horio (2002/0154366).

As for claim 4, Morimoto et al. and Bates et al. disclosed substantially the entire claimed invention, as applied to claim 1 above, except the recess is filled with a second

resin having an elastic modulus lower than that of the first resin, the second resin covering the light emitting element in contact with the first resin and the grounded metal film.

Horio teaches a second resin having elastic coefficient lower than that of the resin package ([0044]; [0045], lines 1-2).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use a lower elastic modulus resin as the second resin, as taught by Horio, in Morimoto et al. and Bates et al.'s device, with the motivation that the protective member thus formed are elastomeric and capable of alleviating the stresses caused by the molding resin of the package.

The prior art combined device shows the second resin covering the light emitting element in contact with the first resin and the grounded metal film.

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto et al. (2003/0156842) and Bates et al. (5,049,978) as applied to claim 1, in view of Iwasaki (6,034,712).

As for claims 6 and 7, Morimoto et al. and Bates et al. disclosed substantially the entire claimed invention, as applied to claim 1 above, except the grounded metal film includes three layers of different materials, wherein the three layers of the grounded metal film include a first layer of copper, a second layer of nickel and a third layer of gold.

Iwasaki teaches a metal film includes three layers of different materials, wherein the three layers of the metal film include a first layer of copper, a second layer of nickel and a third layer of gold (Col. 21, lines 46-51).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use copper, nickel and gold layers to construct three layer metal film, as taught by Iwasaki, in Morimoto et al. and Bates et al.'s device, in order to improve the performance and the reliability of the device interconnection.

The prior art combined device shows the grounded metal film includes three layers of different materials, wherein the three layers of the grounded metal film include a first layer of copper, a second layer of nickel and a third layer of gold.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEIYA LI whose telephone number is (571)270-1572. The examiner can normally be reached on Monday-Friday 7:30AM-5:00PM Eastern Standard Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Gurley can be reached on (571) 272-1670. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/M. L./  
Examiner, Art Unit 2811  
8/27/2008

/Ori Nadav/  
Primary Examiner, Art Unit 2811